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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,621	03/16/2004	Richard J. Hinrichs	BTARV-1029874	2936

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EXAMINER

BROOKS, KRISTIE LATRICE

ART UNIT	PAPER NUMBER
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1616

NOTIFICATION DATE	DELIVERY MODE
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02/27/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<i>Office Action Summary</i>	Application No.	Applicant(s)	
	10/801,621	HINRICHS ET AL.	
	Examiner	Art Unit	
	KRISTIE L. BROOKS	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2008.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 30 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

1. Claim 30 is pending.
 2. Receipt and consideration of Applicants remarks/arguments submitted on August 19, 2008 is acknowledged.
 3. Rejections not reiterated from the previous Office Action are hereby withdrawn.
- The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

New Grounds of Rejection Necessitated by Applicant's Amendment

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polovina (US 4,783,342) in view of Mayers et al., New Ethylene Inhibitor Could Extend Flower Life, *Perishables handling Quarterly*, Issue No. 92, pgs 9-11, Nov. 1997.

Applicant claims a method for maintaining or prolonging the appearance of a floral or foliage display which comprises the steps of: preparing an aqueous coating composition for the plants, wherein the coating composition comprises a latex polymer, a surfactant, an ethylene inhibitor and a protectant, wherein the protectant is selected from the group consisting of an anti-microbial agent and an antifungal agent; preparing the floral or foliage display of cut plants by cutting plants; and applying the aqueous coating composition to the entire surface of the cut plants in liquid or aerosol form.

Determination of the scope and content of the prior art
(MPEP 2141.01)

Polovina discloses methods of preserving plants, vegetables, fruits or cut flowers by applying a polymeric film coating composition, which controls water loss, to the surface of the plants (see the abstract, column 1 lines 6-12 and claims 1-21). The film is formed by applying an acrylic latex (e.g. Unocal 76 Res 2131 latex) containing a water soluble polymer to the plant or cut flower and allowing the composition to dry (see column 2 lines 12-26 and column 3 lines 36-55). The composition preferably contains 0.1 to about 3% of a surfactant and preferably contains 0.2 to about 3% of antimicrobial

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agents such as methyl or propyl p-hydroxybenzoate (see column 2 lines 36-48 and claim 3). The film will contain less than 10% of water (see column 3 lines 28-30).

Example 2 discloses a plant treating composition containing 200 parts of Unocal 76 Res 2131 latex (~4.8% by weight concentration), 195 parts deionized water, 13.5 parts of Ulasein 15 solution, 0.8 parts Surfonyl TG-E surfactant and 2 parts Methyl Paraben preservative (methyl p-hydroxybenzoate). One part of the volume concentrate was mixed with 10 to 15 parts by volume water to form a film coating composition.

The following tests were run using the coating composition of Example 2:

-A number of indoor decorative plants that are maintained in the laboratory and several office areas have been spray drenched with the coating composition of Example 2. These plants that were usually watered once a week, or at worst once every two weeks, have now been observed without any watering for up to three months, and some up to four months. The plants look healthy, and because of the latex coating have an attractive surface gloss.

-Cut flowers were dipped into the coating composition of Example 2, and the coating preserved them much longer than they would have been preserved had they not been coated.

-Green bananas were sprayed with the coating composition of Example 2, and the weight loss of the bananas during storage was reduced compared to bananas that were not coated. In addition the ripening process of the coated bananas was accelerated by the coating and the appearance of the bananas was

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improved by the coating.

-Field tests of the coating composition of Example 2 showed improved yield of apples and plums, freeze protection of tomatoes, protection of tomatoes and peppers from heat, and frost protection of Hibiscus. When used in combination with liquid fertilizers on tomatoes, self supporting tomato plants resulted, requiring no stakes.

(See the entire article, especially all the Examples and more specifically Example 2 in column 6).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Polovina do not teach incorporating an ethylene inhibitor into the plant (or cut flower) preserving composition. This deficiency is cured by the teachings of Mayers et al.

Mayers et al. teach an ethylene inhibitor, 1-methylcyclopropene (MCP), acts as a binding site competitor and is very promising as a postharvest treatment from both potted plants and fresh cut flowers (see the fourth paragraph on page 9). Many floral crops are sensitive to the common atmosphere pollutant, ethylene gas, which can shorten the life of many floral crops, causing flower and bud drop, premature wilting, and flower discoloration (see the first paragraph on page 9 and "What's Ethylene?" on page 10). Recent data discloses a dramatic increase in display life for plants and

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flowered treated with MCP. For cut flowers, MCP treatments result in a display life that is extended more than 200% (see page 10 and Table 2 on page 11).

Finding of prima facie obviousness Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to incorporate an ethylene inhibitor into the formulation taught by Polovina because ethylene inhibitors (i.e. MCP) are known to extend the life of cut flowers and protect against premature wilting, flower or bud drop, flower discoloration, etc, as suggested by Mayers et al.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate an ethylene inhibitor into the cut flower preserving formulation taught by Polovina since ethylene inhibitors are known to extend the life of cut flowers, thus further enhancing the effectiveness of the plant preserving composition. Furthermore, it is *prima facie* obvious to combine two known components taught to be useful for the same purpose. *In re Kerkhoven*, 626 F.2d 846, 850,205 USPQ 1069, 1072 (CCPA 1980). And in the instant case, the formulation taught by Polovina and the ethylene inhibitor taught by Mayers et al, are both useful for extending the life of cut flowers, thereby prolonging the appearance of a floral display.

Therefore, the claimed invention would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made because the prior art is fairly suggestive of the claimed invention.

Response to Arguments

Applicant's arguments filed August, 19, 2008 have been fully considered but they are not persuasive.

Applicant argues that Polovina does not teach or disclose the use of an ethylene inhibitor.

This argument is not convincing. Although Polovina does not teach the use of a ethylene inhibitor, ethylene inhibitors are known to the extend the life of cut flowers and protect the flowers against premature wilting, flower or bud drop, flower discoloration, etc, as suggested by Mayers et al. (see 103 rejection above). Thus, it would have been obvious to one of ordinary skill in the art to incorporate an ethylene inhibitor into the cut flower preserving formulation taught by Polovina, thereby further enhancing the effectiveness of the plant preserving composition on cut flowers.

Applicant argues that Polovina teaches away from the use of an ethylene inhibitor, since Polovina's main focus is the ability to preserve plants for later field planting.

This argument is not persuasive. Polovina's main focus is not to preserve plants for later field planting, as argued by Applicant. Polovina's focus is on preserving plants during periods of droughts and preserving flowers that have been cut (see the abstract, column 1 lines 5-12 and 50-53, and column 3 lines 35-49). Thus, Polovina do not teach away from the use of an ethylene inhibitor.

Applicant further argues that it is the combination of the ethylene inhibitor with the other instant ingredients that form basis for unexpected results, as described in the Example on page 12. The Example on page 12 of the instant specification discloses the instant formulation being applied to various types of flowers and greenery used during an award ceremony. The floral/foilage display was sprayed 8-12 hours before the ceremony. The floral display retained the desired fresh appearance until well after the ceremony.

This data is not persuasive. Applicant provided data that describes the instant formulation being sprayed onto plants 8-12 hours before the ceremony and lasting for an unknown period of time. There is no control, comparative compositions, or timeline present, and thus, there is no way of telling whether the instant formulation last longer than expected. Applicant has not provided any comparative data for of ordinary skill in the art to accurately asses whether an unexpected result has occurred.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie L. Brooks whose telephone number is (571) 272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Mina Haghighatian/
Primary Examiner, Art Unit 1616